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REMARKS/ARGUMENTS

Claims 2-17 are pending. Claim 1 has been cancelled. Claims 11-17 have been withdrawn from consideration. Claim 2 has been amended to incorporate the limitations of claim 1 and is now an independent claim.

The Examiner rejected claims 1-8 under 35 U.S.C. 102(b) as being anticipated by Keller et al. (US 6,051,151), and claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over Keller and further in view of Lenz (US 6,019,060).

Claim 1 has been cancelled. Therefore, with respect to claim 1, the rejection is now moot.

Claim 2 has been amended to incorporate the limitations of claim 1 and is now an independent claim. Applicant respectfully argues that Keller does not teach every limitation comprised in the amended claim 2 and therefore, does not anticipate the amended claim 2.

First, in the present application, the magnetic source comprises magnetic elements placed on the opposite sides of the one or more confinement rings. For example, in Figure 1, magnets 112 and 116 are placed above the confinement rings 102 while magnets 114 and 118 are placed below the confinement rings 102. (Please see present application, Figure 1 and page 4, lines 7-14.) Magnets 112 and 114 form a pair, and magnets 116 and 118 form a pair. Similarly in Figure 6, magnets 612 are placed above the confinement rings 102 while magnets 614 are placed below the confinement rings 102. (Please see present application, Figure 6 and page 12, lines 3-11.) In contrast, in Keller, the magnets were either embedded in the chamber walls or embedded in the confinement rings, but not placed on the opposite sides of the confinement rings. (Please see Keller, Figures 3 and 4.)

Second, in the present application, the confinement rings are mechanical devices that confine the plasma. Even without the magnetic fields generated by the magnets, the confinement rings help to reduce the amount of plasma and other gases reaching the chamber wall and control the rate of gas flow past the confinement rings. (Please see present application, page 1, lines 19-22.) The magnetic fields are meant to enhance the physical confinement provided by the confinement rings. (Please see present application, page 2, lines 12-14.) In contrast, the ring magnet shown in Figure 4 of Keller cooperates with the magnets embedded in the ring magnet to

form a surface confinement. (Please see Keller, Figure 4 and column 3, lines 58-60.) Thus, confinement is achieved through magnetic fields instead of physical devices. For these reasons, independent claim 2 is not anticipated by Keller.

Dependent claims 3-10 are also patentably distinct from the cited references for at least the same reasons as those recited above for independent claim 2, upon which they ultimately depend. These dependent claims recite additional limitations that further distinguish these dependent claims from the cited references.


For example, in the present application, claim 3 further recites that the magnetic field increases collisions of the charged particles with the confinement rings. When these charged particles pass through the magnetic field, their trajectories are bent, which in turn causes the particles to collide with the confinement rings. (Please see present application, Figure 3 and page 6, lines 1-24.)

Claim 4 further recites that the magnetic fields pass through the confinement rings. (Please see present application, Figure 3 and page 5, line 27.) Similarly, claim 7 further recites that the magnetic fields pass through the region of the confinement rings. The Examiner indicates that Figure 3 of Keller shows the magnetic fields passing through the confinement rings. Applicant respectfully disagrees, because there does not appear to be any confinement rings shown in Figure 3 of Keller. Figure 3 is a top view of a workpiece (wafer 36) in place on the chuck 42. (Please see Keller, Figure 3 and column 3, lines 34-35.) Individual magnets 30 are placed around the chamber 14. (Please see Keller, Figure 3 and column 3, lines 38-40.) The magnetic field 46 is above and across the wafer 36, and should be nearly parallel to the surface of the work piece. (Please see Keller, Figure 3 and column 3, lines 27-28 & 34-35.) However, there are no physical confinement rings in the figure.

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a

telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (650) 961-8300.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP


Michael Lee
Registration No. 31,846

P.O. Box 70250
Oakland, CA 94612-0250
(650) 961-8300